Image

AF/1700

Docket No.: KCC-14,833

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Raymond Jeffrey MAY, et al.	
Serial No.:	09/855,189	Group No.: 1771
Filing Date:	14 May 2001	Examiner: E. Cole
Title:	TARGETED ELASTIC LAMINATE HAVING ZONES OF DIFFERENT BASIS WEIGHTS	
Confirmation No. 8200		
Customer No. 35844		

APPEAL BRIEF UNDER 37 C.F.R. 1.192

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants herewith file their Appeal Brief in the above-identified case, pursuant to their Notice of Appeal filed 03 July 2003.

1. REAL PARTY IN INTEREST

The real party in interest is Kimberly-Clark Worldwide, Inc., the assignee of the present application (as recorded at reel 012168, frame 0864).

09/04/2003 KZEWDIE 00000062 09855189

01 FC:1402 320.00 OP

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

August 28, 2003

8/28/03
Date

Signature

2. RELATED APPEALS AND INTERFERENCES

Applicants are not aware of any related appeals or interferences with regard to the present application.

3. STATUS OF CLAIMS

Claims 1-16, 18-25, and 28-60 are pending in the application. The present Appeal is directed to Claims 1-16, 18-25, and 28-60, which were finally rejected in an Office Action mailed 05 March 2003. The Final Office Action and the Advisory Action both indicate rejection of Claims 1-60; however, Applicants canceled Claims 17, 26, and 27 in the Amendment filed 20 December 2002, prior to issuance of the Final Office Action.

4. STATUS OF AMENDMENTS

No amendment was filed subsequent to the most recent final rejection.

5. SUMMARY OF INVENTION

The present invention is directed to a targeted elastic laminate material including a series of elastomeric filaments bonded between two facing layers. The targeted elastic laminate material has at least one low tension zone and at least one high tension zone, each including a plurality of the elastomeric filaments. The low tension zone has a lower basis weight than the high tension zone. (Page 3, lines 2-5). Additionally, a barrier layer is positioned between at least a portion of each of the two facing layers. (Page 15, lines 10-14).

In order to achieve the different basis weights among the low and high tension zones, the elastomeric filaments in the high tension zone may have a greater average thickness than the elastomeric filaments in the low tension zone. (Page 16, lines 16-21). Alternatively, the different basis weights may be achieved through a higher frequency (i.e., number of filaments per unit cross-sectional area) of elastomeric strands in the high tension zone than in the low tension zone. (Page 15, line 21 – Page 16, line 4; Page 22, lines 9-18).

The targeted elastic laminate material is particularly suitable for use in the construction of a variety of personal care garments, including diapers, training pants, swim wear, absorbent underpants, baby wipes, adult incontinence products, feminine hygiene products, and protective garments. (Page 36, lines 8-12).

The invention is also directed to a method of producing the targeted elastic laminate material. The method involves extruding elastomeric filaments from one or more spinning systems, with some of the elastomeric filaments having a greater basis weight than other elastomeric filaments. (Page 23, lines 3-8). After cooling the filaments, the filaments are then stretched, with some filaments being stretched by a different amount than other filaments. (Page 27, lines 3-17). The laminate material can be formed by adhering the stretched filaments between two facing materials, and then relaxing the laminate material. (Page 28, lines 2-4). Additionally, a barrier layer can be positioned between the first and second facing materials before the bonding step. (Page 15, lines 10-14).

6. ISSUES

The issues presented for review are as follows:

1) Whether Claims 1-16, 18-24, and 49-60 are unpatentable under 35 U.S.C. 103(a) over *Melbye et al.* (PCT Publication No. WO 95/34264) in view of *Mleziva et al.* (U.S. Patent No. 6,057,024) and further in view of *Suzuki et al.* (U.S. Patent No. 4,687,477).

2) Whether Claims 25 and 28-48 are unpatentable under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* (PCT Publication No. WO 95/34264) in view of *Mleziva et al.* (U.S. Patent No. 6,057,024) and *Suzuki et al.* (U.S. Patent No. 4,687,477) as applied to Claims 1-16, 18-24 and 49-60 above, and further in view of *Gore* (U.S. Patent No. 4,239,578).

7. GROUPING OF CLAIMS

The Claims are grouped as follows:

Group 1. Claims 1-16, 18-24, and 49-60 are directed, in general, to a targeted elastic laminate material including a plurality of elastomeric filaments positioned

between two facing layers with a barrier layer also positioned between at least a portion of the two facing layers, the laminate having at least two zones of different basis weights.

Group 2. Claims 25 and 28-48 are directed to a method of producing a targeted elastic laminate material including the step of stretching two different types of elastomeric filaments to different extents.

8. ARGUMENT

I. Claims 1-16, 18-24, and 49-60 are non-obvious under 35 U.S.C. 103(a) based on the teachings of *Melbye et al.* in view of *Mleziva et al.* and further in view of *Suzuki et al.*

In the final Office Action, mailed 05 March 2003, the Examiner rejected claims 1-16, 18-24, and 49-60 under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* in view of *Mleziva et al.* and further in view of *Suzuki et al.*

Independent Claims 1 and 49 both recite a targeted elastic laminate material including a plurality of elastomeric filaments and a barrier layer positioned between two facing layers. The targeted elastic laminate material exists as an entity of its own, in contrast to a manufactured article that includes multiple layers bonded to one another only through the course of the article manufacturing process.

Melbye et al. disclose an elastic composite including one or two sheets thermally bonded directly to a multiplicity of molten, extruded elastic strands. *Melbye et al.* fail to disclose or suggest a combination of elastic strands and a barrier layer, or any other type of additional layer, positioned between two facing layers.

Mleziva et al. disclose a composite elastic material including ribbon-shaped elastic elements joined to an extensible layer. *Mleziva et al.* fail to disclose or suggest high and low tension zones in the composite elastic material, and further fail to disclose or suggest a combination of elastic strands and a barrier layer positioned between two facing layers.

Suzuki et al. disclose a disposable diaper having side flap elastic members, wherein the elastic members are formed of multiple rubber strings bonded together. Rather than using a pre-formed elastic laminate, the diaper is instead formed by positioning the elastic or rubber strings between a nonwoven fabric topsheet and a plastic

film backsheet. Although the plastic film in *Suzuki et al.* may possess the properties of a barrier layer, the plastic film is not positioned between at least a portion of two other layers. The Examiner suggests that "one of ordinary skill in the art would have been motivated to employ the *Suzuki* material because it would enhance the liquid retaining qualities of the diaper and because *Suzuki* teaches that such composite materials were conventionally used." *Suzuki et al.* merely disclose the use of separate layers that are conventionally bonded together during diaper manufacturing processes, such as a conventional nonwoven fabric topsheet and a conventional plastic film backsheet, but fail to disclose or suggest any sort of laminate, *per se.* In particular, *Suzuki et al.* fail to disclose a laminate that includes elastic strands and a barrier layer positioned between two facing layers.

Neither *Melbye et al.*, *Mleziva et al.*, *Suzuki et al.*, nor any combination thereof, disclose or suggest a laminate including a barrier layer positioned between at least a portion of each of two facing sheets. Each of these references relies on completely different types of elastic members and methods of applying the elastic members to other elements within the composite or diaper. Thus, these references teach away from the proposed combination thereof.

There is no suggestion to combine the teachings of *Melbye et al.* and the teachings of *Mleziva et al.* *Melbye et al.* and *Mleziva et al.* are both directed to elastomeric composite materials made by completely different, essentially conflicting, methods. More particularly, the elastic strands in *Melbye et al.* are applied to a corrugated sheet in a molten form. In contrast, the elastic strands in *Mleziva et al.* are applied in a solid state to an extensible layer. Thus, it is unlikely that a person skilled in the art would have any motivation to combine the teachings of *Melbye et al.* and *Mleziva et al.* absent the use of impermissible hindsight.

The Examiner suggests that it would have been obvious to one of ordinary skill in the art to use the diaper material set forth by *Suzuki et al.* as one of the facing layers in *Melbye et al.* However, *Suzuki et al.* disclose a completed diaper configuration, not a material or laminate to be applied to other material applications. Even if the components of the diaper were formed into a single laminate, the laminate itself would include elastic strands and a layer of absorbent material bonded between a nonwoven fabric and a plastic film. *Melbye et al.* discloses a three-layer laminate. Following the

Examiner's suggestion to use the diaper material of *Suzuki et al.* as a facing layer in the three-layer laminate of *Melbye et al.* would result in a laminate of nonwoven/elastic-strands-and-absorbent-layer/film/elastic-strands/nonwoven. The inclusion of the absorbent material would compromise the elastomeric properties of the resulting laminate, thereby defeating the primary purpose of Applicants' invention.

In the Advisory Action, the Examiner reiterated the suggestion that one of ordinary skill in the art would have been motivated to incorporate a barrier layer, as taught by *Suzuki et al.*, into the structure of *Melbye et al.* The Examiner further suggests that just the elastic tab portions of the *Suzuki et al.* diaper would provide the necessary motivation for inserting a barrier layer into the composite structure of *Melbye et al.* Once again, it is unlikely that a person skilled in the art would have any motivation to add a barrier layer to an elastic composite laminate based on the structure of a small portion of a diaper, absent the use of impermissible hindsight.

Even if a person skilled in the art were motivated to combine the elastic composite of either *Melbye et al.* or *Mleziva et al.* with the diaper of *Suzuki et al.*, the combination would result in a modified diaper rather than a modified elastic composite since elastic composites are typically applied to diapers and it would be illogical to apply a diaper to a laminate.

For at least the reasons presented above, Applicants respectfully request the Board to overturn this rejection.

II. Claims 25 and 28-48 are non-obvious under 35 U.S.C. 103(a) based on the teachings of *Melbye et al.* in view of *Mleziva et al.* and *Suzuki et al*, and further in view of *Gore.*

In the final Office Action, mailed 05 March 2003, the Examiner rejected claims 25 and 28-48 under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* in view of *Mleziva et al.* and *Suzuki et al.*, and further in view of *Gore.*

It is the Examiner's contention that a person having ordinary skill in the art at the time the invention was made would have been motivated to stretch the filaments of *Mleziva et al.* to different degrees in order to form a diaper having different elasticity in different areas, as taught by *Gore.* Applicants' independent Claims 25 and 38 are not

directed to a diaper, but instead are directed to a method of producing a targeted elastic laminate material. The material can be employed in a garment-manufacturing process, thereby eliminating one or more elastic-attachment steps in the garment-manufacturing process, but the material *per se* does not equate to a finished diaper. Furthermore, rather than varying the degree of stretch along the length of one or more elastic filaments, the methods of Claims 25 and 38 require the step of stretching at least two filaments by different amounts from one another.

Neither *Melbye et al.*, *Mleziva et al.* nor *Suzuki et al.* disclose or suggest differentially stretching elastic filaments when making an elastic composite. *Suzuki et al.* do not disclose an elastic composite *per se*, but instead disclose a diaper and a method of making a diaper. In any case, *Suzuki et al.* fail to disclose or suggest the step of differentially stretching elastic filaments. *Melbye et al.* and *Mleziva et al.* are both directed to elastomeric composite materials made by completely different, essentially conflicting, methods, neither of which include the step of differentially stretching elastic filaments. Thus, these references teach away from the proposed combination thereof.

Gore discloses apparatus for applying elastic strips along leg openings in diapers. When using this apparatus, an elastic strip, or a set of elastic strips, may be stretched to different degrees along the length of the strip(s), i.e., in the machine direction. More particularly, the elastic strips can extend from a front waist area through a crotch area to a back waist area of a diaper, with the elastic strips experiencing greatest stretch in the crotch area and substantial relaxation in both of the front and back waist areas (Col. 5, lines 25-36). Thus, all of the elastic strips undergo the same amount of stretch as one another, with all of the elastic strips being stretched a greater amount in the crotch area than in the waist areas. Consequently, the elastic strips have essentially the same amount of tension as one another in the cross direction, such as across the crotch area, for example, with each elastic strip varying in tension along its length in the machine direction of the diaper.

In contrast, Applicants' Claims 25 and 38 require extruding a plurality of elastomeric first and second filaments, and stretching the first and second filaments by different amounts. Consequently, the elastomeric filaments applied according to the method of Applicants' invention have varying degrees of tension from one another in the

cross direction, but may have substantially constant tension along their entire lengths in the machine direction of the targeted elastic laminate material.

Notwithstanding the lack of motivation for combining these references, as explained above, neither *Melbye et al.*, *Mleziva et al.*, *Suzuki et al.*, nor *Gore*, alone or in combination, disclose or suggest a method of producing a targeted elastic laminate material in which first and second elastomeric filaments are extruded and are stretched by different amounts from one another. The Examiner suggests that it would have been obvious to one of ordinary skill in the art to stretch the filaments of *Mleziva et al.* to different degrees. By combining the teachings of *Gore* with *Mleziva et al.*, it would only be obvious to stretch the filaments to different degrees along their lengths in the machine direction, but it would not be obvious to stretch two or more filaments by different amounts from one another to create a differential tension profile in the cross direction.

For at least the reasons presented above, Applicants respectfully request the Board to overturn this rejection.

9. CONCLUSION

For the above reasons, Applicants respectfully submit that the rejections posed by the Examiner are improper as a matter of law and fact. Accordingly, Applicants respectfully request the Board reverse the rejection of Claims 1-16, 18-25, and 28-60.

A check for the fee required by 37 CFR 1.192(a) and 37 CFR 1.17(c), in the amount of $320.00, is attached hereto. Please charge any additional amount owed, or credit any overpayment, to Deposit Account 19-3550.

Respectfully submitted,

Melanie I. Rauch
Registration No. 40,924

Pauley Petersen & Erickson
2800 West Higgins Road
Suite 365
Hoffman Estates, Illinois 60195
(847) 490-1400
FAX (847) 490-1403

APPENDIX A

1. A targeted elastic laminate material, comprising:

at least one low tension zone, the low tension zone including a plurality of elastomeric first filaments, the low tension zone having a first basis weight;

at least one high tension zone, the high tension zone including a plurality of elastomeric second filaments, the high tension zone having a second basis weight higher than the first basis weight;

a first facing layer bonded to a first side of the low tension zone and a first side of the high tension zone;

a second facing layer bonded to a second side of the low tension zone and a second side of the high tension zone; and

a barrier layer positioned between at least a portion of each of the first and second facing layers.

2. The targeted elastic laminate material of Claim 1, wherein the second basis weight is at least 10% greater than the first basis weight.

3. The targeted elastic laminate material of Claim 1, wherein the second basis weight is at least 50% greater than the first basis weight.

4. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 100% to about 800% greater than the first basis weight.

5. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 125% to about 500% greater than the first basis weight.

6. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 200% to about 400% greater than the first basis weight.

7. The targeted elastic laminate material of Claim 1, wherein the first basis weight is about 2 gsm to about 14 gsm and the second basis weight is about 10 gsm to about 32 gsm.

8. The targeted elastic laminate material of Claim 1, wherein the first basis weight is about 4 gsm to about 12 gsm and the second basis weight is about 12 gsm to about 30 gsm.

9. The targeted elastic laminate material of Claim 1, wherein the first filaments have a first average thickness and the second filaments have a second average thickness greater than the first average thickness.

10. The targeted elastic laminate material of Claim 9, wherein each of the first average thickness and the second average thickness is about 0.010 inch to about 0.040 inch.

11. The targeted elastic laminate material of Claim 9, wherein each of the first average thickness and the second average thickness is about 0.020 inch to about 0.032 inch.

12. The targeted elastic laminate material of Claim 1, wherein the first filaments have a first frequency and the second filaments have a second frequency higher than the first frequency.

13. The targeted elastic laminate material of Claim 12, wherein the first filaments have a first frequency and the second filaments have a second frequency of about 4 hpi to about 40 hpi.

14. The targeted elastic laminate material of Claim 12, wherein the first filaments have a first frequency and the second filaments have a second frequency of about 12 hpi to about 30 hpi.

15. The targeted elastic laminate material of Claim 1, wherein the low tension zone and the high tension zone are bonded to the facing layer with an elastomeric adhesive.

16. The targeted elastic laminate material of Claim 1, wherein the facing layer comprises an elastomeric meltblown web.

18. The targeted elastic laminate material of Claim 1, wherein the first elastomeric filaments and the second elastomeric filaments comprise a polymer selected from the group consisting of styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene-propylene-styrene-ethylene-propylene tetrablock copolymers, styrene-ethylene-propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

19. The targeted elastic laminate material of Claim 1, wherein the first elastomeric filaments and the second elastomeric filaments comprise substantially the same polymer composition.

20. The targeted elastic laminate material of Claim 1, wherein the low tension zone is laterally adjacent to the high tension zone.

21. The targeted elastic laminate material of Claim 1, wherein each of the first facing layer and the second facing layer comprises a material selected from a nonwoven web, a woven web and a film.

22. The targeted elastic laminate material of Claim 1, wherein each of the first facing layer and the second facing layer comprises a spunbond material.

23. The targeted elastic laminate material of Claim 1, wherein the low tension zone has a first tension and the high tension zone has a second tension greater than the first tension.

24. A garment comprising the targeted elastic laminate material of Claim 1.

25. A method of producing a targeted elastic laminate material, comprising the steps of:

extruding a plurality of elastomeric first filaments from a plurality of spinning holes in at least one first spin plate region;

extruding a plurality of elastomeric second filaments from a plurality of spinning holes in at least one second spin plate region, the second filaments having a greater basis weight than a basis weight of the first filaments;

cooling the first and second filaments;

stretching the first and second filaments, such that the first filaments are stretched by a different amount than the second filaments;

forming a laminate material by adhering the stretched first and second filaments to a first facing material and an opposing second facing material; and

relaxing the laminate material.

28. The method of Claim 25, wherein the first and second filaments are stretched by about 100% to about 800% of an initial length.

29. The method of Claim 25, wherein the first and second filaments are substantially continuous.

30. The method of Claim 25, wherein the first spin plate region has spinning holes with a first diameter and the second spin plate region has spinning holes with a second diameter greater than the first diameter.

31. The method of Claim 25, wherein the first spin plate region has a first frequency of spinning holes and the second spin plate region has a second frequency of spinning holes greater than the first frequency.

32. The method of Claim 25, wherein the cooling step is accomplished by passing the first and the second filaments over a series of chill rolls.

33. The method of Claim 25, wherein the cooling step is accomplished by placing the first and second filaments on a foraminous belt and applying a vacuum through the belt.

34. The method of Claim 25, wherein the stretching step is accomplished by passing the first and second filaments over a series of stretch rolls.

35. The method of Claim 34, wherein the series of stretch rolls comprises a first stretch roll and a second stretch roll, the first stretch roll rotates at a first speed and the second stretch roll rotates at a second speed greater than the first speed.

36. The method of Claim 25, wherein a low tension zone comprises first filaments having a first tension and a high tension zone comprises second filaments having a second tension greater than the first tension.

37. The method of Claim 25, wherein the second filaments form a high tension zone that overlaps a portion of a low tension zone formed by the first filaments.

38. A method of producing a targeted elastic laminate material, comprising the steps of:

extruding a plurality of elastomeric first filaments from a first spinning system having at least one first die, the first die having at least one spin plate region with a plurality of first spinning holes;

extruding a plurality of elastomeric second filaments from a second spinning system having at least one second die, the second die having at least one spin

plate region with a plurality of second spinning holes, the second filaments having a greater basis weight than a basis weight of the first filaments;

cooling the first and second filaments;

stretching the first and second filaments, such that the first filaments are stretched by a different amount than the second filaments;

forming a laminate material by adhering the stretched first and second filaments to a first facing material and an opposing second facing material; and

relaxing the laminate material.

39. The method of Claim 38, wherein the first filaments are cooled by placing the first filaments on a foraminous belt and applying a vacuum through the belt, and the second filaments are cooled by passing the second filaments through a series of chill rolls.

40. The method of Claim 39, wherein the first filaments are stretched by passing the first filaments through a first series of stretch rolls and the second filaments are stretched by passing the second filaments through a second series of stretch rolls.

41. The method of Claim 40, wherein the amount of stretching of the first and second filaments is independently controlled.

42. The method of Claim 38, wherein the first filaments are cooled by passing the first filaments through a first series of chill rolls and the second filaments are cooled by passing the second filaments through a second series of chill rolls.

43. The method of Claim 42, wherein the first filaments are stretched by passing the first filaments through a first series of stretch rolls and the second filaments are stretched by passing the second filaments through a second series of stretch rolls.

44. The method of Claim 43, wherein the amount of stretching of the first and second filaments is independently controlled.

45. The method of Claim 38, wherein the second filaments form a high tension zone that overlaps at least a portion of a low tension zone formed by the first filaments.

46. The method of Claim 38, further comprising the step of aligning the first filaments and the second filaments during the stretching step.

47. The method of Claim 38, wherein a barrier layer is positioned between the first facing material and the second facing material before the laminate material is bonded.

48. The method of Claim 38, wherein the first and second filaments are stretched by about 50% to about 300% of an initial length.

49. A disposable garment comprising a targeted elastic laminate material, the targeted elastic laminate material comprising:

at least one low tension zone, the low tension zone having a plurality of elastomeric first filaments, the first filaments having a first basis weight;

at least one high tension zone, the high tension zone having a plurality of elastomeric second filaments, the second filaments having a second basis weight higher than the first basis weight;

a first facing material bonded to a first side of the low tension zone and a first side of the high tension zone;

a second facing material bonded to a second side of the low tension zone and a second side of the high tension zone; and

a barrier layer positioned between at least a portion of each of the first and second facing materials.

50. The disposable garment of Claim 49, wherein the first and second filaments comprise substantially continuous filaments.

51. The disposable garment of Claim 49, comprising a diaper.

52. The disposable garment of Claim 49, comprising training pants.

53. The disposable garment of Claim 49, comprising swim wear.

54. The disposable garment of Claim 49, comprising absorbent underpants.

55. The disposable garment of Claim 49, comprising a baby wipe.

56. The disposable garment of Claim 49, comprising an adult incontinence product.

57. The disposable garment of Claim 49, comprising a feminine hygiene product.

58. The disposable garment of Claim 49, comprising a protective garment.

59. The targeted elastic laminate material of Claim 1, wherein the barrier layer is positioned between layers including one of elastomeric first filaments, elastomeric second filaments, and combinations thereof.

60. The disposable garment of Claim 49, wherein the barrier layer is positioned between layers including one of elastomeric first filaments, elastomeric second filaments, and combinations thereof.

OIPE JC96 SEP 03 2003 PATENT & TRADEMARK OFFICE

Docket No.: KCC-14,833

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Raymond Jeffrey MAY, et al.	
Serial No.:	09/855,189	Group No.: 1771
Filing Date:	14 May 2001	Examiner: E. Cole
Title:	TARGETED ELASTIC LAMINATE HAVING ZONES OF DIFFERENT BASIS WEIGHTS	

Confirmation No. 8200

Customer No. 35844

APPEAL BRIEF UNDER 37 C.F.R. 1.192

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants herewith file their Appeal Brief in the above-identified case, pursuant to their Notice of Appeal filed 03 July 2003.

1. REAL PARTY IN INTEREST

The real party in interest is Kimberly-Clark Worldwide, Inc., the assignee of the present application (as recorded at reel 012168, frame 0864).

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

August 28, 2003.

8/28/03
Date

Signature

2. RELATED APPEALS AND INTERFERENCES

Applicants are not aware of any related appeals or interferences with regard to the present application.

3. STATUS OF CLAIMS

Claims 1-16, 18-25, and 28-60 are pending in the application. The present Appeal is directed to Claims 1-16, 18-25, and 28-60, which were finally rejected in an Office Action mailed 05 March 2003. The Final Office Action and the Advisory Action both indicate rejection of Claims 1-60; however, Applicants canceled Claims 17, 26, and 27 in the Amendment filed 20 December 2002, prior to issuance of the Final Office Action.

4. STATUS OF AMENDMENTS

No amendment was filed subsequent to the most recent final rejection.

5. SUMMARY OF INVENTION

The present invention is directed to a targeted elastic laminate material including a series of elastomeric filaments bonded between two facing layers. The targeted elastic laminate material has at least one low tension zone and at least one high tension zone, each including a plurality of the elastomeric filaments. The low tension zone has a lower basis weight than the high tension zone. (Page 3, lines 2-5). Additionally, a barrier layer is positioned between at least a portion of each of the two facing layers. (Page 15, lines 10-14).

In order to achieve the different basis weights among the low and high tension zones, the elastomeric filaments in the high tension zone may have a greater average thickness than the elastomeric filaments in the low tension zone. (Page 16, lines 16-21). Alternatively, the different basis weights may be achieved through a higher frequency (i.e., number of filaments per unit cross-sectional area) of elastomeric strands in the high tension zone than in the low tension zone. (Page 15, line 21 – Page 16, line 4; Page 22, lines 9-18).

The targeted elastic laminate material is particularly suitable for use in the construction of a variety of personal care garments, including diapers, training pants, swim wear, absorbent underpants, baby wipes, adult incontinence products, feminine hygiene products, and protective garments. (Page 36, lines 8-12).

The invention is also directed to a method of producing the targeted elastic laminate material. The method involves extruding elastomeric filaments from one or more spinning systems, with some of the elastomeric filaments having a greater basis weight than other elastomeric filaments. (Page 23, lines 3-8). After cooling the filaments, the filaments are then stretched, with some filaments being stretched by a different amount than other filaments. (Page 27, lines 3-17). The laminate material can be formed by adhering the stretched filaments between two facing materials, and then relaxing the laminate material. (Page 28, lines 2-4). Additionally, a barrier layer can be positioned between the first and second facing materials before the bonding step. (Page 15, lines 10-14).

6. ISSUES

The issues presented for review are as follows:

1) Whether Claims 1-16, 18-24, and 49-60 are unpatentable under 35 U.S.C. 103(a) over *Melbye et al.* (PCT Publication No. WO 95/34264) in view of *Mleziva et al.* (U.S. Patent No. 6,057,024) and further in view of *Suzuki et al.* (U.S. Patent No. 4,687,477).

2) Whether Claims 25 and 28-48 are unpatentable under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* (PCT Publication No. WO 95/34264) in view of *Mleziva et al.* (U.S. Patent No. 6,057,024) and *Suzuki et al.* (U.S. Patent No. 4,687,477) as applied to Claims 1-16, 18-24 and 49-60 above, and further in view of *Gore* (U.S. Patent No. 4,239,578).

7. GROUPING OF CLAIMS

The Claims are grouped as follows:

Group 1. Claims 1-16, 18-24, and 49-60 are directed, in general, to a targeted elastic laminate material including a plurality of elastomeric filaments positioned

between two facing layers with a barrier layer also positioned between at least a portion of the two facing layers, the laminate having at least two zones of different basis weights.

Group 2. Claims 25 and 28-48 are directed to a method of producing a targeted elastic laminate material including the step of stretching two different types of elastomeric filaments to different extents.

8. ARGUMENT

I. Claims 1-16, 18-24, and 49-60 are non-obvious under 35 U.S.C. 103(a) based on the teachings of *Melbye et al.* in view of *Mleziva et al.* and further in view of *Suzuki et al.*

In the final Office Action, mailed 05 March 2003, the Examiner rejected claims 1-16, 18-24, and 49-60 under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* in view of *Mleziva et al.* and further in view of *Suzuki et al.*

Independent Claims 1 and 49 both recite a targeted elastic laminate material including a plurality of elastomeric filaments and a barrier layer positioned between two facing layers. The targeted elastic laminate material exists as an entity of its own, in contrast to a manufactured article that includes multiple layers bonded to one another only through the course of the article manufacturing process.

Melbye et al. disclose an elastic composite including one or two sheets thermally bonded directly to a multiplicity of molten, extruded elastic strands. *Melbye et al.* fail to disclose or suggest a combination of elastic strands and a barrier layer, or any other type of additional layer, positioned between two facing layers.

Mleziva et al. disclose a composite elastic material including ribbon-shaped elastic elements joined to an extensible layer. *Mleziva et al.* fail to disclose or suggest high and low tension zones in the composite elastic material, and further fail to disclose or suggest a combination of elastic strands and a barrier layer positioned between two facing layers.

Suzuki et al. disclose a disposable diaper having side flap elastic members, wherein the elastic members are formed of multiple rubber strings bonded together. Rather than using a pre-formed elastic laminate, the diaper is instead formed by positioning the elastic or rubber strings between a nonwoven fabric topsheet and a plastic

film backsheet. Although the plastic film in *Suzuki et al.* may possess the properties of a barrier layer, the plastic film is not positioned between at least a portion of two other layers. The Examiner suggests that "one of ordinary skill in the art would have been motivated to employ the *Suzuki* material because it would enhance the liquid retaining qualities of the diaper and because *Suzuki* teaches that such composite materials were conventionally used." *Suzuki et al.* merely disclose the use of separate layers that are conventionally bonded together during diaper manufacturing processes, such as a conventional nonwoven fabric topsheet and a conventional plastic film backsheet, but fail to disclose or suggest any sort of laminate, *per se*. In particular, *Suzuki et al.* fail to disclose a laminate that includes elastic strands and a barrier layer positioned between two facing layers.

Neither *Melbye et al.*, *Mleziva et al.*, *Suzuki et al.*, nor any combination thereof, disclose or suggest a laminate including a barrier layer positioned between at least a portion of each of two facing sheets. Each of these references relies on completely different types of elastic members and methods of applying the elastic members to other elements within the composite or diaper. Thus, these references teach away from the proposed combination thereof.

There is no suggestion to combine the teachings of *Melbye et al.* and the teachings of *Mleziva et al.* *Melbye et al.* and *Mleziva et al.* are both directed to elastomeric composite materials made by completely different, essentially conflicting, methods. More particularly, the elastic strands in *Melbye et al.* are applied to a corrugated sheet in a molten form. In contrast, the elastic strands in *Mleziva et al.* are applied in a solid state to an extensible layer. Thus, it is unlikely that a person skilled in the art would have any motivation to combine the teachings of *Melbye et al.* and *Mleziva et al.* absent the use of impermissible hindsight.

The Examiner suggests that it would have been obvious to one of ordinary skill in the art to use the diaper material set forth by *Suzuki et al.* as one of the facing layers in *Melbye et al.* However, *Suzuki et al.* disclose a completed diaper configuration, not a material or laminate to be applied to other material applications. Even if the components of the diaper were formed into a single laminate, the laminate itself would include elastic strands and a layer of absorbent material bonded between a nonwoven fabric and a plastic film. *Melbye et al.* discloses a three-layer laminate. Following the

Examiner's suggestion to use the diaper material of *Suzuki et al.* as a facing layer in the three-layer laminate of *Melbye et al.* would result in a laminate of nonwoven/elastic-strands-and-absorbent-layer/film/elastic-strands/nonwoven. The inclusion of the absorbent material would compromise the elastomeric properties of the resulting laminate, thereby defeating the primary purpose of Applicants' invention.

In the Advisory Action, the Examiner reiterated the suggestion that one of ordinary skill in the art would have been motivated to incorporate a barrier layer, as taught by *Suzuki et al.*, into the structure of *Melbye et al.* The Examiner further suggests that just the elastic tab portions of the *Suzuki et al.* diaper would provide the necessary motivation for inserting a barrier layer into the composite structure of *Melbye et al.* Once again, it is unlikely that a person skilled in the art would have any motivation to add a barrier layer to an elastic composite laminate based on the structure of a small portion of a diaper, absent the use of impermissible hindsight.

Even if a person skilled in the art were motivated to combine the elastic composite of either *Melbye et al.* or *Mleziva et al.* with the diaper of *Suzuki et al.*, the combination would result in a modified diaper rather than a modified elastic composite since elastic composites are typically applied to diapers and it would be illogical to apply a diaper to a laminate.

For at least the reasons presented above, Applicants respectfully request the Board to overturn this rejection.

II. Claims 25 and 28-48 are non-obvious under 35 U.S.C. 103(a) based on the teachings of *Melbye et al.* in view of *Mleziva et al.* and *Suzuki et al.*, and further in view of *Gore.*

In the final Office Action, mailed 05 March 2003, the Examiner rejected claims 25 and 28-48 under 35 U.S.C. 103(a) as being unpatentable over *Melbye et al.* in view of *Mleziva et al.* and *Suzuki et al.*, and further in view of *Gore.*

It is the Examiner's contention that a person having ordinary skill in the art at the time the invention was made would have been motivated to stretch the filaments of *Mleziva et al.* to different degrees in order to form a diaper having different elasticity in different areas, as taught by *Gore.* Applicants' independent Claims 25 and 38 are not

directed to a diaper, but instead are directed to a method of producing a targeted elastic laminate material. The material can be employed in a garment-manufacturing process, thereby eliminating one or more elastic-attachment steps in the garment-manufacturing process, but the material *per se* does not equate to a finished diaper. Furthermore, rather than varying the degree of stretch along the length of one or more elastic filaments, the methods of Claims 25 and 38 require the step of stretching at least two filaments by different amounts from one another.

Neither *Melbye et al.*, *Mleziva et al.* nor *Suzuki et al.* disclose or suggest differentially stretching elastic filaments when making an elastic composite. *Suzuki et al.* do not disclose an elastic composite *per se*, but instead disclose a diaper and a method of making a diaper. In any case, *Suzuki et al.* fail to disclose or suggest the step of differentially stretching elastic filaments. *Melbye et al.* and *Mleziva et al.* are both directed to elastomeric composite materials made by completely different, essentially conflicting, methods, neither of which include the step of differentially stretching elastic filaments. Thus, these references teach away from the proposed combination thereof.

Gore discloses apparatus for applying elastic strips along leg openings in diapers. When using this apparatus, an elastic strip, or a set of elastic strips, may be stretched to different degrees along the length of the strip(s), i.e., in the machine direction. More particularly, the elastic strips can extend from a front waist area through a crotch area to a back waist area of a diaper, with the elastic strips experiencing greatest stretch in the crotch area and substantial relaxation in both of the front and back waist areas (Col. 5, lines 25-36). Thus, all of the elastic strips undergo the same amount of stretch as one another, with all of the elastic strips being stretched a greater amount in the crotch area than in the waist areas. Consequently, the elastic strips have essentially the same amount of tension as one another in the cross direction, such as across the crotch area, for example, with each elastic strip varying in tension along its length in the machine direction of the diaper.

In contrast, Applicants' Claims 25 and 38 require extruding a plurality of elastomeric first and second filaments, and stretching the first and second filaments by different amounts. Consequently, the elastomeric filaments applied according to the method of Applicants' invention have varying degrees of tension from one another in the

cross direction, but may have substantially constant tension along their entire lengths in the machine direction of the targeted elastic laminate material.

Notwithstanding the lack of motivation for combining these references, as explained above, neither *Melbye et al.*, *Mleziva et al.*, *Suzuki et al.*, nor *Gore*, alone or in combination, disclose or suggest a method of producing a targeted elastic laminate material in which first and second elastomeric filaments are extruded and are stretched by different amounts from one another. The Examiner suggests that it would have been obvious to one of ordinary skill in the art to stretch the filaments of *Mleziva et al.* to different degrees. By combining the teachings of *Gore* with *Mleziva et al.*, it would only be obvious to stretch the filaments to different degrees along their lengths in the machine direction, but it would not be obvious to stretch two or more filaments by different amounts from one another to create a differential tension profile in the cross direction.

For at least the reasons presented above, Applicants respectfully request the Board to overturn this rejection.

9. CONCLUSION

For the above reasons, Applicants respectfully submit that the rejections posed by the Examiner are improper as a matter of law and fact. Accordingly, Applicants respectfully request the Board reverse the rejection of Claims 1-16, 18-25, and 28-60.

A check for the fee required by 37 CFR 1.192(a) and 37 CFR 1.17(c), in the amount of $320.00, is attached hereto. Please charge any additional amount owed, or credit any overpayment, to Deposit Account 19-3550.

Respectfully submitted,

Melanie I. Rauch
Registration No. 40,924

Pauley Petersen & Erickson
2800 West Higgins Road
Suite 365
Hoffman Estates, Illinois 60195
(847) 490-1400
FAX (847) 490-1403

APPENDIX A

1. A targeted elastic laminate material, comprising:

at least one low tension zone, the low tension zone including a plurality of elastomeric first filaments, the low tension zone having a first basis weight;

at least one high tension zone, the high tension zone including a plurality of elastomeric second filaments, the high tension zone having a second basis weight higher than the first basis weight;

a first facing layer bonded to a first side of the low tension zone and a first side of the high tension zone;

a second facing layer bonded to a second side of the low tension zone and a second side of the high tension zone; and

a barrier layer positioned between at least a portion of each of the first and second facing layers.

2. The targeted elastic laminate material of Claim 1, wherein the second basis weight is at least 10% greater than the first basis weight.

3. The targeted elastic laminate material of Claim 1, wherein the second basis weight is at least 50% greater than the first basis weight.

4. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 100% to about 800% greater than the first basis weight.

5. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 125% to about 500% greater than the first basis weight.

6. The targeted elastic laminate material of Claim 1, wherein the second basis weight is about 200% to about 400% greater than the first basis weight.

7. The targeted elastic laminate material of Claim 1, wherein the first basis weight is about 2 gsm to about 14 gsm and the second basis weight is about 10 gsm to about 32 gsm.

8. The targeted elastic laminate material of Claim 1, wherein the first basis weight is about 4 gsm to about 12 gsm and the second basis weight is about 12 gsm to about 30 gsm.

9. The targeted elastic laminate material of Claim 1, wherein the first filaments have a first average thickness and the second filaments have a second average thickness greater than the first average thickness.

10. The targeted elastic laminate material of Claim 9, wherein each of the first average thickness and the second average thickness is about 0.010 inch to about 0.040 inch.

11. The targeted elastic laminate material of Claim 9, wherein each of the first average thickness and the second average thickness is about 0.020 inch to about 0.032 inch.

12. The targeted elastic laminate material of Claim 1, wherein the first filaments have a first frequency and the second filaments have a second frequency higher than the first frequency.

13. The targeted elastic laminate material of Claim 12, wherein the first filaments have a first frequency and the second filaments have a second frequency of about 4 hpi to about 40 hpi.

14. The targeted elastic laminate material of Claim 12, wherein the first filaments have a first frequency and the second filaments have a second frequency of about 12 hpi to about 30 hpi.

15. The targeted elastic laminate material of Claim 1, wherein the low tension zone and the high tension zone are bonded to the facing layer with an elastomeric adhesive.

16. The targeted elastic laminate material of Claim 1, wherein the facing layer comprises an elastomeric meltblown web.

18. The targeted elastic laminate material of Claim 1, wherein the first elastomeric filaments and the second elastomeric filaments comprise a polymer selected from the group consisting of styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene-propylene-styrene-ethylene-propylene tetrablock copolymers, styrene-ethylene-propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

19. The targeted elastic laminate material of Claim 1, wherein the first elastomeric filaments and the second elastomeric filaments comprise substantially the same polymer composition.

20. The targeted elastic laminate material of Claim 1, wherein the low tension zone is laterally adjacent to the high tension zone.

21. The targeted elastic laminate material of Claim 1, wherein each of the first facing layer and the second facing layer comprises a material selected from a nonwoven web, a woven web and a film.

22. The targeted elastic laminate material of Claim 1, wherein each of the first facing layer and the second facing layer comprises a spunbond material.

23. The targeted elastic laminate material of Claim 1, wherein the low tension zone has a first tension and the high tension zone has a second tension greater than the first tension.

24. A garment comprising the targeted elastic laminate material of Claim 1.

25. A method of producing a targeted elastic laminate material, comprising the steps of:

extruding a plurality of elastomeric first filaments from a plurality of spinning holes in at least one first spin plate region;

extruding a plurality of elastomeric second filaments from a plurality of spinning holes in at least one second spin plate region, the second filaments having a greater basis weight than a basis weight of the first filaments;

cooling the first and second filaments;

stretching the first and second filaments, such that the first filaments are stretched by a different amount than the second filaments;

forming a laminate material by adhering the stretched first and second filaments to a first facing material and an opposing second facing material; and

relaxing the laminate material.

28. The method of Claim 25, wherein the first and second filaments are stretched by about 100% to about 800% of an initial length.

29. The method of Claim 25, wherein the first and second filaments are substantially continuous.

30. The method of Claim 25, wherein the first spin plate region has spinning holes with a first diameter and the second spin plate region has spinning holes with a second diameter greater than the first diameter.

31. The method of Claim 25, wherein the first spin plate region has a first frequency of spinning holes and the second spin plate region has a second frequency of spinning holes greater than the first frequency.

32. The method of Claim 25, wherein the cooling step is accomplished by passing the first and the second filaments over a series of chill rolls.

33. The method of Claim 25, wherein the cooling step is accomplished by placing the first and second filaments on a foraminous belt and applying a vacuum through the belt.

34. The method of Claim 25, wherein the stretching step is accomplished by passing the first and second filaments over a series of stretch rolls.

35. The method of Claim 34, wherein the series of stretch rolls comprises a first stretch roll and a second stretch roll, the first stretch roll rotates at a first speed and the second stretch roll rotates at a second speed greater than the first speed.

36. The method of Claim 25, wherein a low tension zone comprises first filaments having a first tension and a high tension zone comprises second filaments having a second tension greater than the first tension.

37. The method of Claim 25, wherein the second filaments form a high tension zone that overlaps a portion of a low tension zone formed by the first filaments.

38. A method of producing a targeted elastic laminate material, comprising the steps of:

extruding a plurality of elastomeric first filaments from a first spinning system having at least one first die, the first die having at least one spin plate region with a plurality of first spinning holes;

extruding a plurality of elastomeric second filaments from a second spinning system having at least one second die, the second die having at least one spin

plate region with a plurality of second spinning holes, the second filaments having a greater basis weight than a basis weight of the first filaments;

cooling the first and second filaments;

stretching the first and second filaments, such that the first filaments are stretched by a different amount than the second filaments;

forming a laminate material by adhering the stretched first and second filaments to a first facing material and an opposing second facing material; and

relaxing the laminate material.

39. The method of Claim 38, wherein the first filaments are cooled by placing the first filaments on a foraminous belt and applying a vacuum through the belt, and the second filaments are cooled by passing the second filaments through a series of chill rolls.

40. The method of Claim 39, wherein the first filaments are stretched by passing the first filaments through a first series of stretch rolls and the second filaments are stretched by passing the second filaments through a second series of stretch rolls.

41. The method of Claim 40, wherein the amount of stretching of the first and second filaments is independently controlled.

42. The method of Claim 38, wherein the first filaments are cooled by passing the first filaments through a first series of chill rolls and the second filaments are cooled by passing the second filaments through a second series of chill rolls.

43. The method of Claim 42, wherein the first filaments are stretched by passing the first filaments through a first series of stretch rolls and the second filaments are stretched by passing the second filaments through a second series of stretch rolls.

44. The method of Claim 43, wherein the amount of stretching of the first and second filaments is independently controlled.

45. The method of Claim 38, wherein the second filaments form a high tension zone that overlaps at least a portion of a low tension zone formed by the first filaments.

46. The method of Claim 38, further comprising the step of aligning the first filaments and the second filaments during the stretching step.

47. The method of Claim 38, wherein a barrier layer is positioned between the first facing material and the second facing material before the laminate material is bonded.

48. The method of Claim 38, wherein the first and second filaments are stretched by about 50% to about 300% of an initial length.

49. A disposable garment comprising a targeted elastic laminate material, the targeted elastic laminate material comprising:

at least one low tension zone, the low tension zone having a plurality of elastomeric first filaments, the first filaments having a first basis weight;

at least one high tension zone, the high tension zone having a plurality of elastomeric second filaments, the second filaments having a second basis weight higher than the first basis weight;

a first facing material bonded to a first side of the low tension zone and a first side of the high tension zone;

a second facing material bonded to a second side of the low tension zone and a second side of the high tension zone; and

a barrier layer positioned between at least a portion of each of the first and second facing materials.

50. The disposable garment of Claim 49, wherein the first and second filaments comprise substantially continuous filaments.

51. The disposable garment of Claim 49, comprising a diaper.

52. The disposable garment of Claim 49, comprising training pants.

53. The disposable garment of Claim 49, comprising swim wear.

54. The disposable garment of Claim 49, comprising absorbent underpants.

55. The disposable garment of Claim 49, comprising a baby wipe.

56. The disposable garment of Claim 49, comprising an adult incontinence product.

57. The disposable garment of Claim 49, comprising a feminine hygiene product.

58. The disposable garment of Claim 49, comprising a protective garment.

59. The targeted elastic laminate material of Claim 1, wherein the barrier layer is positioned between layers including one of elastomeric first filaments, elastomeric second filaments, and combinations thereof.

60. The disposable garment of Claim 49, wherein the barrier layer is positioned between layers including one of elastomeric first filaments, elastomeric second filaments, and combinations thereof.